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| 09/890,168 | 10/30/2001 | Tomio Echigo | 954-010444-U | 7706 |

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| EXAMINER | |
|---|---|
| FOULADI SEMNANI, FARANAK | |
| ART UNIT | PAPER NUMBER |
| 2674 | |

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/890,168 | ECHIGO ET AL. | |
| | Examiner | Art Unit | |
| | Faranak Fouladi | 2674 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *27 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-6 and 8-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 8-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/29/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. This action is responsive to communications: application, filed on 10/30/2001; Amendment A, filed on 02/27/04; Amendment after Final, filed on 07/29/04; RCE filed on 09/13/04 and IDS filed on 10/29/04.
2. Claims 1-6, 8-20 are pending in the case, with claims 1-6, 8, 9, and 20 being independent.
3. Claim 7 has been cancelled.
4. The present title of the application is "METHOD AND DEVICE FOR DESCRIBING VIDEO CONTENTS" (as originally filed).

### *Priority*

5. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Objections*

6. Claims 1-6, 8-20 are objected to because of the following informalities:
    a. As per claims 1-4, 9 and 20, the limitations "each object" and "each scene" are confusing since the word "each" is used when one of two or more considered individually but there is no indication of plurality of objects or sense in these claims.

b. As per claims 5,6 and 8, the limitation "each object" is confusing since the word "each" is used when one of two or more considered individually but there is no indication of plurality of objects in these claims.

c. Claims 10 and 11 are objected to as being dependent upon an objected base claim 1.

d. Claims 12 and 13 are objected to as being dependent upon an objected base claim 2.

e. Claims 14 and 15 are objected to as being dependent upon an objected base claim 3.

f. Claim 16 is objected to as being dependent upon an objected base claim 4.

g. Claim 17 is objected to as being dependent upon an objected base claim 5.

h. Claim 18 is objected to as being dependent upon an objected base claim 6.

i. Claim 19 is objected to as being dependent upon an objected base claim 8.

7. Claims 1 and 2 are objected to because of the following informalities (in addition to the aforementioned objections):

a. Part (b) reads "means for describing each object on said motion picture by positioning on said reference plane and predefined type of actions". These

limitations are confusing because it is not clear if "positioning on said reference plane" and "predefined type of actions" refer to said each object. Please improve the clarity and precision of the language.

b. Part (c) reads "means for describing each scene by using said means for describing each object." This limitation is confusing since a scene is described by interaction of plural objects (specification, page 9, last line of "Summary of the Invention" section). Please improve the clarity and precision of the language.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

◆ The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 3-6, 9 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claims 3, 4, 9 and 20 are rejected because:

a. Part (b) reads "representing changes over time of each object on said reference plane as a trajectory" This limitation is confusing because it is

not clear what is changed overtime. Also, the claim language does not convey a need or relationship for" trajectory" in part (c) or (d), therefore examiner is confused as to why step (b) is needed in order to completing steps (c) and (d)? There is a gap between steps (b), (c) and (d).

10. Claims 5 and 6 are rejected because:

a. part (b) reads "cutting a region map, an object trajectory ID, an action ID and a camera parameter from said motion picture;" but in page 25 of the specification first paragraph only cutting region map from a cutting process is described and "an object trajectory ID, an action ID and a camera parameter" are not acquired from a region cutting process. Therefore, examiner is confused as to how "an object trajectory ID, an action ID and a camera parameter" is cut from a motion picture. Does cutting a region map also provide "an object trajectory ID, an action ID and a camera parameter"?

The scope of the aforementioned claimed subject matters cannot be determined.

### *Claim Rejections - 35 USC § 102*

◆ The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 2, 8 and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by "Automatic Parsing of TV Soccer Programs" Y. Gong et al. Proceedings of the International Conference on Multimedia Computing and Systems, 1995, May 1995 Pages: 167 – 174, hereinafter "Gong".

12. Regarding independent claim 1, "a description means for contents of motion picture, said means comprising of:

(a) means for setting a reference plane by using a zone description and a camera model; (Gong discloses in section 2 page 168 in second paragraph (left col.) lines 3-6 a soccer court as a reference plane and it discloses zone description in first paragraph (Right col.) lines 1-7 and it discloses using camera model in second paragraph (Right col.) lines 8-15)

(b) means for describing each object on said motion picture by positioning on said reference plane and predefined type of actions (Gong discloses in section 2 page 168; in third paragraph (right col.) lines 4-11 describing each object (players and ball) on the reference plane (on the court) and predefined type of action (i.e. corner kick) in page 169 first paragraph (left col.) lines 7-13); and

(c) means for describing each scene by using said means for describing each object (Gong discloses in page 169 first paragraph (left col.)."

13. Regarding independent claim 2, " a search means for contents of motion picture, said means comprising of:

(a) means for setting a reference plane by using a zone description and a camera model;

(b) means for describing each object on said motion picture by positioning on said reference plane and predefined type of actions; and

(c) means for describing each scene by using said means for describing each object; and

(d) means for searching motion picture by using said means for describing each object or said means for describing each scene." Parts (a), (b) and (c) are the same as claim 1 and therefore are rejected under the same rationale. Regarding part (d) Gong discloses in page 173 first paragraph (left col.)".

14. Claim 8 recite a computer readable storage medium which has recorded program containing executable instructions executing the method of claim 1. It is inherent to have a medium configured to store or transport computer readable code in a computer system. For example compact disc has been included and used in the computer systems since 1990s or magnetic data storage devices have been used since 1980s.

15. Regarding claim 10, "The description means of claim 1 wherein the reference plane comprises information on object positions independently of a camera

movement." Gong discloses in page 168 section 2 third paragraph (left col.)- first paragraph (right col.).

16. Regarding claim 11, "The description means of claim 1 wherein the reference plane represents a ground for determining positions of objects in relation to an actual direction of motion of the object." Gong discloses in section 2 page 168 third paragraph (right col.) lines 6-11.

17. Claim 12 is the same in scope and content as claim 10 and therefore is rejected under the same rationale.

18. Claim 13 is the same in scope and content as claim 11 and therefore is rejected under the same rationale.

***Claim Rejections - 35 USC § 103***

♦ The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. Claims 3-6, 9 and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dimitrova et al. [**Rx for semantic video database retrieval, Proceedings of the second ACM international conference on Multimedia,** Pages: 219 - 226, Year of publication 1994] in view of Gong.

20. Regarding independent claim 3, "a description method for motion picture, said method comprising the steps of:

(a) determining a reference plane by using a zone description and a camera model, wherein the reference plane represents information of object positions included in said motion picture (Dimitrova discloses in section 3 page 223-section 4 page 224-225 using a semantic multiresolution hierarchy (also demonstrated in Fig. 3) along with spatiotemporal representation to retrieve video scenes. In section 4 it discloses a domain D containing all objects of interest (examiner interpret this to be the reference plane) and then it uses motion analysis to associate domain-dependent activities with the object trajectory and since motion trajectory of object is a spatial representation of the object's motion (the path) it can determine the trajectory's origination point (examiner interpret this as zone description);

(b) representing changes over time of each object on said reference plane as a trajectory (Dimitrova discloses in section 3.1 page 221 third paragraph in left column lines 5-8);

(c) setting a description unit based on predefined type of actions of each object by using changes in shape of each object so as to assign actions of each object as each behavioral section; and

(d) defining each scene by plural objects. (Dimitrova discloses part c and part d in section 3.3 page 223. It discloses a description unit based on predefined type of activities (actions) by identifying each object components (shape) and their respective trajectories and the time information and then it discloses defining

each scene by plural object in section 4 page 224 second paragraph in right column).

Dimitrova does not explicitly disclose using a camera model for setting a reference plane. On the other hand, Gong discloses using camera model in second paragraph (Right col.) lines 8-15 in his program for parsing soccer game video.

It would have been obvious to one of ordinary skill in the art at the time of invention to add the camera model of Gong to the Dimitrova's program because the camera operations produce a specific pattern in the motion vector field that shows the movement of the play and this represent an important semantic description of the soccer scenes that can be used in Dimitrova's semantic hierarchy to retrieve video sense.

21. Regarding independent claim 4, "a search method for motion picture, said method comprising the steps of:

(a) setting a reference plane by using a zone description and a camera model, wherein the reference plane represents information of object positions included in said motion picture;

(b) representing changes over time of each object on said reference plane as a trajectory;

(c) setting a description unit based on predefined type of actions of each object by using changes in shape of each object so as to assign actions of each object as each behavioral section; and

(d) defining each scene by plural objects; and

(e) searching a specific scene by using said actions of each object or said scene." Parts (a), (b), (c) and (d) are similar to claim 3 and therefore are rejected under the same rationale. Regarding part (e), Dimitrova discloses in section 4.1 page 225 in the first and second paragraph of the left column.

22. Regarding independent claim 5, "a description method for motion picture, said method comprising the steps of:

(a) determining a reference plane from said motion picture by using a zone description and a camera model;

(b) cutting a region map, an object trajectory ID, an action ID and a camera parameter from said motion picture;

(c) creating description of actions by each object from said region map, said object trajectory ID, said action ID and said camera parameter; and

(d) creating description of scenes by using said description of actions by each object. Parts (a) is similar to part (a) of claims 3 and 4 and therefore is rejected under the same rationale. Regarding parts (b), (c), and (d) Dimitrova discloses in sec. 4 page 224 first paragraph line 1in left column – line 24 of first paragraph in right column.

23. Regarding independent claim 6, "a search method for motion picture, said method comprising the steps of:

(a) determining a reference plane from said motion picture by using a zone description and a camera model;

(b) cutting a region map, an object trajectory ID, an action ID and a camera parameter from said motion picture;

(c) creating description of actions by each object from said region map, said object trajectory ID, said action ID and said camera parameter;

(d) creating description of scenes by using said description of actions by each object; and

(e) searching a specific scene by using said description of actions by each object or said description of scenes." Parts (a), (b), (c) and (d) are the same as claim 5 and therefore are rejected under the same rationale. Regarding part (e), Dimitrova discloses in section 4.1 page 225 in the first and second paragraph of the left column.

24. Claim 9 recite a computer readable storage medium which has recorded program containing executable instructions executing the method of claim 3. It is inherent to have a medium configured to store or transport computer readable code in a computer system. For example compact disc has been included and used in the computer systems since 1990s or magnetic data storage devices have been used since 1980s.

25. Regarding dependent claim 14, "The description method on claim 3 wherein the reference plane further represents motion of objects independently of camera motion." Dimitrova discloses in sec. 4 page 224 in second paragraph in right column.

26. Regarding claim 15, "The description method of claim 3 wherein the reference plane further represents a ground for determining position and movement of objects in relation to an actual direction of motion of the object that is independent of a camera motion." Dimitrova discloses in figure 3 and in section 3.4 page 223.

27. Claims16-19 are the same as claim 15 and therefore they are rejected under the same rationale.

28. Claim 20 recites a computer readable storage medium which has recorded program containing executable instructions executing the method of claim 5. It is inherent to have a medium configured to store or transport computer readable code in a computer system. For example compact disc has been included and used in the computer systems since 1990s or magnetic data storage devices have been used since 1980s.

***Response to Arguments***

29. Applicant's arguments with respect to claims 1-6 and 8-20 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Faranak Fouladi** whose telephone number is **571-272-7689.** The examiner can normally be reached on Mon-Fri from 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Patrick N. Edouard** can be reach at **(571) 272-7603**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, DC. 20231

**Or faxed to: 703-872-9306 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, sixth-floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.

PATRICK N. EDOUARD
PRIMARY EXAMINER

Faranak Fouladi
Patent Examiner
Art Unit 2674

March 21, 2005